

Frederick Charles Hottes, 1899-1970

Louise M. Russell

*Systematic Entomology Laboratory, Agr. Res. Serv.,
U.S. Department of Agriculture, Washington, D.C. 20250*

ABSTRACT

An account of the life of Frederick C. Hottes, including a bibliography of his 120 publications on the Aphididae and Heteroptera (Insecta).

Dr. Frederick C. Hottes, a well known authority on the taxonomy of aphids of North America, died in St. Mary's Hospital, Grand Junction, Colorado, on October 27, 1970. He experienced a serious illness in 1968 and never regained his former strength and stamina. His health deteriorated markedly in 1970; he entered the hospital in June and remained there most of the time until his death.

This account of his life and activities provides an appropriate vehicle for a list of his publications, which is presented as an aid to librarians, bibliographers, aphid and Heteroptera specialists. The bibliography contains 103 titles on the Aphididae and 17 on the Heteroptera.

Dr. Hottes was interested in the Aphididae for approximately 50 years and during that time acquired numerous aphid species and an extensive, valuable library. It was his earnest desire that the insects and literature be located where they would be of greatest helpfulness to aphid students. With characteristic generosity, he willed these articles to the Smithsonian Institution, Washington, D.C., and they are now in my custody. Dr. Hottes also worked to a limited extent in the Heteroptera, possessed examples of certain families of the group and had important literature concerning them. These insects and publications have been owned by John T. Polhemus, Englewood, Colorado, for several years.

Dr. Hottes was born October 20, 1899, the first child of Henry Gustav and Johanna



Frederick Charles Hottes

Kleine Hottes, in Mascoutah, Illinois. Fred was only five years old and his sister three when they were deprived of their mother's care and affection through her untimely death from tuberculosis of the bone. Subsequently, however, Henry Hottes married Amelia Krull, and this fine woman became the loving and beloved mother of Frederick Charles as well as the mother of his two brothers. Amelia and Frederick Hottes were devoted to each other as long as she lived.

Mascoutah was a small town populated with German immigrants and their descend-

ants who retained many Old World customs and spoke entirely in the German language. Here Fred was christened Friedrich Karl, which he later anglicized, and here he and his sister learned to speak only in German. Inability to converse in English was an inconvenience and embarrassment when the family moved to the wholly English speaking community of Palisade, Colorado, in late 1905, and after learning English, the children pretended they could not understand or speak German.

In 1908 the Henry Hottes family moved to Boise, Idaho, where the Hottes grandparents lived, but returned to Palisade in 1913 to look after the large land holdings belonging to Henry Hottes, his parents, and his five sisters. The Hottes family had developed extensive fruit orchards in the Palisade area, and eventually Henry Hottes became a fruit dealer as well as a grower.

During those early years Fred was a carefree, frontier boy who played with his sister, brothers and friends. His hobbies were painting china, decorating wood by burning, raising various kinds of poultry and riding horseback. He assisted his father in caring for pigs and horses, their only farm animals, and in deciding when fruit should be picked. Since the elder Hottes was color blind, he depended on his eldest son to tell him when apples, pears, peaches, plums and cherries were ripe.

Fred went to school in Palisade or nearby Mt. Lincoln, and though the family moved to Grand Junction in 1918, he continued his schooling at Palisade where he graduated from high school in 1919. That Fall he entered Colorado Agricultural College whence he received a B.S. degree in 1923. Graduate studies earned him an M.S. degree from Iowa State College in 1925, and a Ph. D. degree from the University of Minnesota in 1927. At Colorado Hottes was elected to membership in Alpha Gamma Rho, a social fraternity of students in Agriculture, and was initiated into Gamma Sigma Delta, an honorary agricultural fraternity, at Iowa State.

It is uncertain when Dr. Hottes first became interested in entomology, but his

intense interest in aphids developed while he was a student at Colorado. There, under the influence of the most active American aphidologists of that period, C.P. Gillette and Miriam A. Palmer, he entered upon the collection and study of aphids with an enthusiasm that persisted throughout his entire life.

At Iowa State College Hottes was persuaded by the eminent hemipterist, C.J. Drake, to undertake the study of certain Heteroptera. Although he worked on this group and co-authored papers with Dr. Drake, his engrossing interest remained with aphids. He obtained a teaching assistantship at the University of Minnesota where he studied with the noted aphidologist, O.W. Oestlund, with whom he published his first aphid paper.

Fresh from his graduate work with Dr. Oestlund, Dr. Hottes was given an opportunity to pursue aphid studies with the Illinois Natural History Survey at Urbana and was an employee of that organization during the summers of 1927, 1928, and 1929. T.H. Frison, Chief of the Survey Division, envisaged a report that would assist in the determination of mid-western aphids and enlisted Fred's aid. Although the Survey had almost no aphids except the Thomas Collection when the project was initiated, the entire work, including collecting, research, writing and publication, was completed in five years, an admirable accomplishment in that length of time. After 40 years, the resulting volume, *The Plant Lice, or Aphidae of Illinois*, remains a principal reference to North American aphids, and Hottes' share in it probably is his most useful contribution to the understanding of the Aphididae.

Dr. Hottes began his professorial career in the Biology Department of The James Millikin University, Decatur, Illinois in 1928, became head of the Department in 1929, and served in this capacity with distinction until his retirement in June 1947. At that time he returned to Grand Junction to care for his aged father.

Most Hottes' articles on aphids and heteropterans were descriptions of new

species or previously undescribed forms of older species, though a few dealt with morphology and nomenclature. He was a bibliophile and took great satisfaction in recovering old, forgotten names and articles. After retirement most of his publications treated aphids of conifers, with emphasis on *Cinara*, in which genus he described 74 species. Unfortunately many of his species were not illustrated and he seldom provided keys to assist in the identification of taxa.

Although Dr. Hottes was dedicated to entomology and to aphids in particular, he did not seek close association with other workers. He welcomed aphidologists and others to his home where his collection was stored, but did not return their visits even when urged to do so. He rarely attended meetings where entomologists assembled, and he was not a joiner of entomological societies. During his career he belonged to few scientific organizations, and at the time of his death was a member of only The Pacific Coast Entomological Society.

In Grand Junction Dr. Hottes participated actively in cultural, community and business affairs. He had a consuming interest in Chinese art and owned a notable collection of ivories, porcelains, and textiles. He supported the Grand Junction Library, serving as chairman of its Board from 1961 to 1967, and was instrumental in the establishment and maintenance of the Palisade Library. He also led in the formation of the Western Colorado Center for the Arts, served as chairman of its buildings and grounds committee, and was its president from 1964 to 1967. He was a benefactor of St. Mary's Hospital. A good botanist and an ardent gardener, his lovely grounds were visible testimony of his dedication to, and effectiveness in, beautification. Dr. Hottes was a member of the Lions Club, the Masons, Shriners and Scottish Rite, and was a director of the Mutual Savings and Loan Association of Grand Junction.

In spite of his many interests and accomplishments, appreciative colleagues, friends and financial security, in his later years at least Dr. Hottes was an unhappy man. Basically he was quiet and kindly, a friend

and helper to those in need, and for years he attempted to satisfy every wish of an aging, dictatorial, demanding parent. Although his lifetime performance in kind and perhaps even sacrificial acts might have provided deep satisfaction to a person of different temperament, Dr. Hottes did not seem to reap enjoyment from his execution of good deeds. Rather he appeared to be resentful of the burdens and vicissitudes that were, perhaps by his own decisions, a portion of his life. A bachelor, he lacked close companionship, and after his father's death, lived alone with various Boston terriers for pets. Although dissatisfied with many facets of life, Dr. Hottes thoroughly enjoyed his frequent drives through the scenic Colorado countryside to Grand Mesa, the largest plateau in America. Over the years the Mesa was his favorite collecting area, and there, in the grandeur of the mountain top, he experienced his most satisfying moments. The fact that he did not visit his beloved Mesa during 1970 is ample evidence of his serious illness during that period.

Dr. Hottes' body was cremated and his ashes interred in the family plot at Mascoutah, Illinois, in accordance with his wishes. He is survived by a brother, Howard H. Hottes of Grand Junction, Colorado, and by two nephews.

I am grateful to George F. Knowlton, Miriam A. Palmer and H.H. Ross for information on the life of F.C. Hottes, and I am deeply indebted to Howard H. Hottes for information on the early life of his brother.

Articles by F.C. Hottes on Aphididae

- 1926 A chapter in the life history of *Mordvilkoja vagabundus* (Aphididae). *Ann. Entomol. Soc. Amer.* 19: 75-84, illus. With O.W. Oestlund.
- 1926 A new tribe and a new species in the subfamily Pemphiginae (Homop.: Aphididae). *Entomol. News* 37: 129-133, illus. With A.C. Maxson.
- 1926 *Georgiaphis* nom. n. for *Georgia* (Aphididae, Homop.). *Ibid.* 37: 266-267. With A.C. Maxson.

- 1926 Two new species of Aphididae from Minnesota. *Proc. Biol. Soc. Wash.* 39: 111-113.
- 1926 Two new genera and a new species of Aphididae. *Ibid.* 39: 115-119, illus.
- 1927 A note concerning the date of publication of two aphid genera. *Ibid.* 40: 47-48.
- 1928 Concerning the structure, function, and origin of the cornicles of the family Aphididae. *Ibid.* 41: 71-84, illus.
- 1928 Borderline aphid studies. *Ibid.* 41: 133-138.
- 1930 Aphid homonyms. *Ibid.* 43: 179-184.
- 1930 The name *Cinara* versus the name *Lachnus*. *Ibid.* 43: 185-187.
- 1931 Notes concerning the first papers dealing with the aphid fauna of America. *Ibid.* 44: 61-69.
- 1931 The plant lice, or Aphididae, of Illinois. *Bul. Ill. Nat. Hist. Surv.* 19: 119-447, illus. With T.H. Frison.
- 1933 Descriptions of Aphididae from western Colorado. *Proc. Biol. Soc. Wash.* 46: 1-23.
- 1934 Aphid descriptions and notes. *Ibid.* 47: 1-8.
- 1936 A primer for the aphid hunter. *Ibid.* 49: 27-36.
- 1948 Descriptions of the sexual forms of some species of Aphididae. *Ibid.* 61: 29-32.
- 1948 Two new species of Aphididae. *Ibid.* 61: 33-37.
- 1949 Notes on a little known work by Ph. F. Gmelin published in 1758 wherein he describes some new species of *Aphis*. *Pan-Pac. Entomol.* 25: 83-87.
- 1949 Descriptions of some undescribed forms belonging to two little known species of the family Aphididae. *Proc. Biol. Soc. Wash.* 62: 45-51.
- 1949 Descriptions of the sexual forms of some species of Aphididae. *Ibid.* 62: 53-56.
- 1949 A new species belonging to the genus *Myzocallis* (Aphididae). *Ibid.* 62: 105-107.
- 1949 Some obscure aphid species. *Ibid.* 63: 159-160.
- 1950 A long lost *Aphis* species (Homoptera: Aphididae). *Pan-Pac. Entomol.* 26: 93-94.
- 1950 Descriptions of western Colorado Aphididae. *Proc. Biol. Soc. Wash.* 63: 15-28.
- 1950 Descriptions of some Aphididae from *Carex*. *Ibid.* 63: 35-39.
- 1950 New species of Aphididae. *Ibid.* 63: 97-100.
- 1951 Two new species of Lachnini (Aphididae) from Arizona. *Ibid.* 64: 43-46. With L. P. Wehrle.
- 1951 Arizona Aphididae. *Ibid.* 64: 47-52. With L. (W.=lapsus) P. Wehrle.
- 1951 A method for taking aphids in flight. *Pan-Pac. Entomol.* 27: 190.
- 1951 A new juniper aphid from western Colorado. *Proc. Biol. Soc. Wash.* 64: 145-146.
- 1952 Descriptions and notes on two rare species of Aphididae. *J. Wash. Acad. Sci.* 42: 127-129.
- 1952 A new species of *Amphorophora* (Aphididae). *Proc. Biol. Soc. Wash.* 65: 131-133.
- 1952 Miscellaneous notes on the taxonomy of some aphid species (Aphididae). *Pan-Pac. Entomol.* 28: 191-193.
- 1952 Notes on two little known aphid papers published by Luigi Macchiati. *Great Basin Natur.* 12: 55-57.
- 1952 Two new species of Lachnini from Colorado. *Ibid.* 12: 57-61.
- 1953 Seasonal variations in *Myzocallis californicus* Baker (Aphididae). *Pan-Pac. Entomol.* 29: 43-46, illus.
- 1953 Aphidological gleanings (Homoptera). *Ibid.* 29: 147-155.

- 1953 Two new species of *Cinara* (Homoptera: Aphididae) from Ontario. Proc. Biol. Soc. Wash. 66: 85-87. With G.A. Bradley.
- 1953 Notes on some species of *Cinara*, with descriptions of two new species from pinon pine (Aphidae). *Ibid.* 66: 153-158.
- 1953 Descriptions of new species of *Cinara* from western United States (Aphidae). *Ibid.* 66: 159-172. With E.O. Essig.
- 1953 Descriptions of the sexual forms of some species of *Amphorophora* (Aphidae). *Ibid.* 66: 195-198.
- 1953 Descriptions of some undescribed forms of Aphidae. *Ibid.* 66: 199-202.
- 1953 Four new species of *Cinara* (Aphidae). *Ibid.* 66: 205-210, illus. With E.O. Essig.
- 1953 Dr. Carl Börner (1880-1953). Entomol. News 64: 261-262.
- 1954 Descriptions of some undescribed forms of Lachini [!] (Aphidae). Proc. Biol. Soc. Wash. 67: 89-91.
- 1954 Proposed use of the plenary powers to validate the specific name "*pruni*" Geoffroy, 1762, as published in the combination "*Aphis pruni*" (Class Insecta, Order Hemiptera). Bull. Zool. Nomencl. 9: 163-165.
- 1954 Proposed addition to the "Official List of Specific Names in Zoology" of the specific name "*pini*" Linnaeus, 1758, as published in the binominal combination "*Aphis pini*" and as interpreted by DeGeer (1773) (Class Insecta, Order Hemiptera). *Ibid.* 9: 166-173.
- 1954 Proposed use of the plenary powers to designate, as the type species of "*Lachnus*" Burmeister, 1835, and "*Cinara*" Curtis, 1835 (Class Insecta, Order Hemiptera) a species in harmony with accepted nomenclatorial practice. *Ibid.* 9: 174-183.
- 1954 A new species of *Cinara* with notes on some western species of Aphidae. Proc. Biol. Soc. Wash. 67: 93-98, illus. With E.O. Essig.
- 1954 Description of a new genus and species of Aphidae. *Ibid.* 67: 99-101, illus.
- 1954 Descriptions and notes on some species of *Cinara* (Aphidae). *Ibid.* 67: 151-157, illus. With E.O. Essig.
- 1954 Two new species of *Cinara* (Aphidae). Great Basin Natur. 14: 11-13, illus. With G.F. Knowlton.
- 1954 The description of the alate form of *Lachnus montanus* (Wilson). *Ibid.* 14: 21-22.
- 1954 Descriptions and notes on some species of *Cinara* (Aphidae). Proc. Biol. Soc. Wash. 67: 251-261.
- 1954 A new species of *Schizolachnus* (Aphidae). *Ibid.* 67: 273-274. With E.O. Essig and G.F. Knowlton.
- 1954 A new species of *Cinara* and notes on two recently described species (Aphidae). *Ibid.* 67: 275-276. With E.O. Essig.
- 1954 A note to commemorate the one-hundredth anniversary of Koch's Die Pflanzenläuse. Great Basin Natur. 14: 79-82.
- 1954 Some observations on the rostrum of *Cinara puerca* Hottes (Aphidae). *Ibid.* 14: 83-86, illus.
- 1955 Proposed addition of the name "*Phorodon*" Passerini, 1860 (Class Insecta, Order Hemiptera), to the "Official List of Generic Names in Zoology" and of "*humuli*" Schrank, 1801, as published in the binominal combination "*Aphis humuli*", to the "Official List of Specific Names in Zoology". Bull. Zool. Nomencl. 11: 97-98.
- 1955 A new species of *Cinara* from Oregon (Aphidae). Proc. Biol. Soc. Wash. 68: 61-63. With E.O. Essig.
- 1955 A new species of *Cinara* from Arizona (Aphidae). *Ibid.* 68: 65-66. With G.D. Butler, Jr.
- 1955 *Cinara* descriptions (Aphidae). *Ibid.* 68: 67-77, illus.

- 1955 Three new subspecies and figures of five previously unfigured species of *Cinara* (Aphidae). *Ibid.* 68: 101-104, illus.
- 1955 Three new species of *Cinara* (Aphidae). *Ibid.* 68: 197-203, illus.
- 1956 Descriptions of some undescribed forms of *Schizolachnus* with key to species found in the United States (Aphidae). *Ibid.* 69: 59-62, illus.
- 1956 A new species of *Cinara* from Maine (Aphidae). *Ibid.* 69: 65-67, illus.
- 1956 Two new species of *Cinara* from Arizona (Aphidae). *Ibid.* 69: 83-87.
- 1956 Descriptions of some undescribed forms of *Cinara* (Aphidae). *Ibid.* 69: 89-92.
- 1956 Two new species of *Cinara* from northern Arizona with illustrations of hitherto unfigured species and notes on *Schizotachnus flocculosa* (Williams) (Aphidae). *Ibid.* 69: 219-223, illus.
- 1956 Two new species of *Cinara* from Alaska (Aphidae). *Ibid.* 69: 227-229, illus.
- 1957 Four new species of conifer feeding aphids. *Ibid.* 70: 1-8, illus.
- 1957 Descriptions and figures of the morphotypes of some conifer feeding aphids. *Ibid.* 70: 9-16, illus.
- 1957 A synopsis of the genus *Essigella* (Aphidae). *Ibid.* 70: 69-109, illus.
- 1958 Descriptions of some conifer feeding aphids from New England. *Ibid.* 71: 5-10, illus.
- 1958 *Aphthargelia* nom. nov. for *Thargelia* Oestlund (Aphidae). *Ibid.* 71: 43.
- 1958 A new species of *Cinara* (Aphidae) from Sitka spruce. *Ibid.* 71: 61-62, illus.
- 1958 A new Canadian species of *Cinara* (Aphidae) from *Picea rubens*. *Ibid.* 71: 63-64, illus.
- 1958 Two new aphids from *Pinus contorta*. *Ibid.* 71: 75-79, illus.
- 1958 A new species of *Cinara* from Michigan (Aphidae). *Ibid.* 71: 81-83, illus.
- 1958 A new species of *Cinara* from Idaho (Aphidae [!]). *Ibid.* 71: 85-86, illus.
- 1958 A new species of *Cinara* from Washington (Aphidae). *Ibid.* 71: 87-89, illus.
- 1958 A new species of *Essigella* from Oregon (Aphidae). *Ibid.* 71: 155-156, illus.
- 1958 A new species of *Cinara* from California sugar pine (Aphidae). *Ibid.* 71: 157-159, illus.
- 1958 A new species of *Cinara* (Aphidae) from North Dakota. *Ibid.* 71: 171-172, illus.
- 1958 A new species of *Cinara* from Delaware (Aphidae). *Ibid.* 71: 187-189, illus.
- 1958 Descriptions of two allied species of *Cinara* (Aphidae). *Ibid.* 71: 191-195, illus.
- 1959 Description of the apterous form of *Cinara pinivora* (W). *Ibid.* 72: 11-12, illus.
- 1959 A new species of *Schizolachnus* (Aphidae). *Ibid.* 72: 13-14, illus.
- 1960 Notes on and a key to the species of *Cinara* (family Aphidae) living on *Pinus edulis*. *Ibid.* 73: 199-214, illus.
- 1960 A new conifer feeding aphid from Washington. *Ibid.* 73: 197-198, illus.
- 1960 Notes on and a key to species of *Cinara* (family Aphidae) which have *Abies* sp. as host. *Ibid.* 73: 221-233, illus.
- 1960 *Rhizomaria piceae* Hartig new to America (Homoptera: Aphidae). Pan-Pac. Entomol. 36: 199-202, illus.
- 1961 A new species of *Cinara* from knobcone pine (Aphidae). Proc. Biol. Soc. Wash. 74: 1-2, illus.
- 1961 Two new species of *Cinara* from California (Aphidae) which have *Pinus coulteri* as host. *Ibid.* 74: 95-100, illus.

- 1961 Notes on and a key to species of the genus *Cinara* (Aphidae) which have *Tsuga* and *Pseudotsuga* for host. *Ibid.* 74: 111-117, illus.
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- 1961 A new species of *Cinara* from Delaware (Aphididae). *Ibid.* 21: 20-22, illus.
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- 1962 Notes on aphids from Alaska. *Entomol. Ber. (Amsterdam)* 22: 112-120. With D. Hille Ris Lambers.
- 1963 Aphid names of Rafinesque: proposed suppression under the plenary powers (Insecta, Hemiptera, Aphididae). *Bull. Zool. Nomencl.* 20: 128-133.
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- 1964 Three new species of *Cinara*, together with a preliminary list of the species of this genus known from Alaska (Aphididae, Homoptera). *Entomol. Ber. (Amsterdam)* 24: 50-54, illus.
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- 1950 Saldidae of the Americas (Hemiptera). *Great Basin Natur.* 10: 51-61.
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- 1951 Stridulatory organs in Saldidae (Hemiptera). *Great Basin Natur.* 11: 43-46, illus.
- 1951 A new halobatinid from Mexico (Hemiptera: Gerridae). *Proc. Biol. Soc. Wash.* 64: 141-143.
- 1951 Notes on the genus *Rheumatobates* Bergroth (Hemiptera: Heteroptera). *Ibid.* 64: 147-158.
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- 1952 Concerning some Mexican Veliidae (Hemiptera). *Proc. Biol. Soc. Wash.* 65: 85-88, illus.
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- 1953 Notes on *Microvelia flavipes* (Hemiptera: Veliidae). *Proc. Biol. Soc. Wash.* 66: 73-74.
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